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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,164	10/14/2005	Ikushi Yoda	265004US2PCT	3552

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EXAMINER	
RADKIEWICZ, JARED	

ART UNIT	PAPER NUMBER
2624	

NOTIFICATION DATE	DELIVERY MODE
10/05/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/522,164	YODA ET AL.	
	Examiner	Art Unit	
	Jared W. Radkiewicz	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-6 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-6 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 11 March 2005 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 3/18/05,1/12/06.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 6 recites the limitation "said higher-order local autocorrelation characteristic". Claim 1, however, does not recite a higher order local autocorrelation. There is insufficient antecedent basis for this limitation in the claim. Proper correction is required.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. **Claim 1** is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirota et al. (US 6,064,749) in view of Abita et al. (US 5,838,238).

Regarding **claim 1**, Hirota teaches a monitoring device characterized by:

including image processing means for picking up a landmark edge through a stereo camera (Hirota Figure 4 shows stereo cameras viewing 3 landmarks), and

generating image information based on a picked-up image in the view field and distance information based on the coordinate system of the landmark ("The distance a

from the head to landmark A is computed via triangulation in the two camera images", Hirota Column 12 Line 61), and

means for recognizing an object based on distance information and image information transmitted from the stereo camera ("computer generated graphics are registered to objects in the real world", Hirota Column 6 Line 41).

Hirota does not teach the monitoring device being a safety monitoring device, the device being used in a train platform setting, using a plurality of sensors, or a way to confirm safety based on the inputted data.

Abita teaches a safety monitoring device used to increase safety at a train platform using a plurality of sensors (Abita Figure 1 shows a safety monitoring device at a train platform edge, Abita Figure 1 also shows the need for multiple input sensors to cover the full length of a train platform), and a way to confirm safety based on the inputted data ("Vibratory stimulus to a user when approaching a platform edge", Abita Column 3 Line 34).

It would have been obvious at the time of invention to one of ordinary skill in the art to use the stereo vision system of Hirota in the train platform safety system of Abita because Hirota supplies a method of tracking objects and stationary landmarks while Abita shows the need and one method of improving safety at train platform edges. It is obvious to apply any other well known method, such as that in Hirota, to solve the same problem posed by Abita.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirota et al. (US 6,064,749) and Abita et al. (US 5,838,238) in further view of Chun et al. (US 5,176,082).

Regarding **claim 2**, Hirota and Abita teach claim 1.

Hirota and Abita do not teach keeping a log of train passenger's movements.

Chun teaches monitoring and recording train passenger's movements ("Infrared beam transmitters 11 and 13 and their respective beam receivers 12 and 14 are attached to the PPS posts 9 so that the entering passengers 15 will block the beam when they pass between the transmitter and receiver pairs", Column 4 Line 39; and the system records the movements via the "station computer", Column 5 Line 30).

It would have been obvious at the time of invention to one of ordinary skill in the art to add the passenger tracking method of Chun to the general monitoring system of Hirota and Abita to aid in train planning and "render the subway passenger handling system more efficient" (Chun Column 1 Line 8), using the advanced stereo vision system instead of the infrared beam detection method as taught by Chun.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirota et al. (US 6,064,749) and Abita et al. (US 5,838,238) in further view of Crossley et al. (US 4,924,506).

Regarding **claim 3**, Hirota and Abita teach claim 1.

Hirota and Abita do not teach auto correlation used in image recognition.

Crossley teaches an autocorrelation characteristic used in image recognition using stereo cameras ("autocorrelation", Crossley Column 4 Line 26).

It would have been obvious at the time of invention to one of ordinary skill in the art to

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirota et al. (US 6,064,749) and Abita et al. (US 5,838,238) in further view of Darrell et al. (US 6,188,777 B1).

Regarding **claim 4**, Hirota and Abita teach claim 1.

Hirota and Abita do not teach claim 1 using an image mask to detect people.

Darrell teaches a system that uses a mask to distinguish a human from background objects using images from a stereo camera (Darrell Figure 2; and "In the case of height, for example, the individual's height is estimated to be proportional to the product of the height of the target's silhouette above the optical center of the system and the range of the person", Darrell Column 6 Line 35).

It would have been obvious at the time of invention to one of ordinary skill in the art to

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirota et al. (US 6,064,749) and Abita et al. (US 5,838,238) in further view of Hiroshi et al. (Japanese Publication 07-228250).

Regarding **claim 5**, Hirota and Abita teach claim 1.

Hiroshi and Abita do not teach claim 1 wherein the safety monitoring device detects the platform edge and recognizes the fall of a person and issues a warning.

Hiroshi teaches a safety monitoring device that detects a train platform edge and recognizes the fall of a person to issue a warning ("The digital image data 1d, i.e., an image photographed by a camera 3 and drop attention information are displayed by the monitor 6. A station officer decides through alarming of an alarm buzzer 7 that the detected object is detected. The detected object is confirmed by the monitor 6 and the station officer urges persons on a platform 1 to pay attention and the erroneous drop of a person on the platform 1 onto a truck 2 is prevented from occurring", Hiroshi Abstract; and "A decision means to judge whether the detection object extracted by this operation means exists in the edge of a platform", Hiroshi Paragraph 10).

It would have been obvious at the time of invention to one of ordinary skill in the art to

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirota et al. (US 6,064,749) and Abita et al. (US 5,838,238) in further view of Lees et al. (US 4,695,959) and Chun et al. (US 5,176,082).

Regarding **claim 6**, Hirota and Abita teach claim 1.

Hiroshi and Abita do not teach claim 1 wherein people are tracked over a period of time using distance information and an autocorrelation technique.

Lees teaches using autocorrelation in conjunction with stereo imaging to measure distance to an object (the "stereo image" is compared to the second image "by

some correlation technique" Lees Column 10 Lines 14-29; which in one embodiment is an "autocorrelation", Lees Column 6 Line 57).

It would have been obvious at the time of invention to one of ordinary skill in the art to

Hirota, Abita, and Lees do not teach tracking people's movement in a train station setting over time.

Chun teaches monitoring and recording train passenger's movements ("Infrared beam transmitters 11 and 13 and their respective beam receivers 12 and 14 are attached to the PPS posts 9 so that the entering passengers 15 will block the beam when they pass between the transmitter and receiver pairs", Column 4 Line 39; and the system records the movements via the "station computer", Column 5 Line 30)

It would have been obvious at the time of invention to one of ordinary skill in the art to

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jared W. Radkiewicz whose telephone number is (571) 270-1577. The examiner can normally be reached on 8:00 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian P. Werner can be reached on (571) 272-7401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JWR

BRIAN WERNER
SUPERVISORY PATENT EXAMINER